

COMMONWEALTH BUREAU OF CENSUS AND STATISTICS,

CANBERRA, A.C.T.

FREM/MP.

RESEARCH SECTION MEMORANDUM (R.S.M.32).

SEASONAL VARIATIONS IN LABOUR REQUIREMENTS IN
AUSTRALIAN INDUSTRIES.

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It should be understood that many of the estimates used are tentative in character. Criticism and suggestions for improvement are invited.

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16th December, 1940.

RESEARCH SECTION MEMORANDUM (R.S.M.32)

SEASONAL VARIATIONS IN LABOUR REQUIREMENTS
IN AUSTRALIAN INDUSTRIES.

1. THE PURPOSE OF THE MEMORANDUM.

1. The aim of this memorandum is to provide, as far as possible, a conspectus of the normal seasonal variations in the use of labour in each State. Because of the paucity of monthly data and of the mixed character of such data as are available in some fields, certain of the estimates have had to be built on assumptions of probability. They are consequently open to some doubt. Nor can it be claimed that all the indexes of seasonal variation used give exact measurement of the amplitude of seasonal changes in employment throughout a "normal" year; they should, however, be reasonably dependable in indicating the direction of change. Attention in particular, is given to variations due to the operations of (a) those manufacturing industries subject to seasonal variations in production, (b) retail stores, and (c) the agricultural, pastoral and dairying industries. These are the main fields in which seasonality is an important factor affecting employment. The only other fields affected in any substantial way by seasonal variation are land transport services and shipping labour in the ports, in so far as they require additional labour for the despatch of agricultural and pastoral products.

2. ESTIMATED MAGNITUDE OF EMPLOYMENT IN VARIOUS FIELDS IN A "NORMAL" YEAR.

2. Appendix A gives estimates of average total monthly employment in each State in 1938-1939 and its estimated distribution in the several broad fields for which basic data on employment are available. It will be observed that the proportions of total employment represented by the main fields in which seasonality is an important factor, viz, the manufacturing industries, retail stores, and the agricultural, pastoral and dairying industries, vary from State to State. Thus factory employment is 31.7 per cent. of total employment in Victoria but only 13.7 per cent. in Western Australia. The proportion of total employment represented by retail stores employment is much the same in all States, with Queensland and South Australia somewhat higher than the average for all States. Average employment throughout the year (permanent and casual combined) in the agricultural, pastoral and dairying industries in Tasmania represents 17.2 per cent. and in Queensland 16.4 per cent. of total employment, but in New South Wales only 8 per cent. and in Victoria only 6.9 per cent. Average casual employment in the rural field is as high as 9.3 per cent. in Queensland and as low as 1.9 per cent. in Victoria.

Factory Employment.

3. As indicated elsewhere in this memorandum, not the whole field of factory employment is subject to seasonal influences. Manufacturing industries subject to such influences account for (roughly) one-quarter of total factory employment in New South Wales, South Australia and Western Australia, one-third in Victoria and Tasmania, and a little over two-fifths in Queensland. As a proportion of total employment in the State, employment in factories subject in any degree to seasonal influences is 10.5 per cent. in Victoria, 8.7 per cent. in Queensland, 6.6 per cent. in Tasmania, 6.5 per cent. in New South Wales, 5.9 per cent. in South Australia and 3.8 per cent. in Western Australia. (See Appendix B).

It is not possible from available statistics in any State to determine for the seasonal manufacturing industries the ratio of the aggregate numbers of temporary employees actually at work in the months of maximum and minimum activity to the numbers of employees constantly employed. But from such rough seasonal indexes as are possible to construct from figures available to the Bureau it would appear that employment in factories subject to seasonal variations in Queensland contracts in the slackest months by 21.0 per cent. of average employment and expands by 13.2 per cent. in the busiest month and in Tasmania contracts by 11.5 per cent. and expands by 15.3 per cent. The range of contraction and expansion is least in Western Australia (contracts by 4.6 per cent., expands by 2.9 per cent.), the range for other States lying between that of Tasmania and Western Australia. (See Table below and Appendix B^a).

/Retail

* The absolute numbers of employees in All Factories shown in Appendix B refer to the average numbers in employment on the 15th or the nearest pay-day to the 15th of each month. They differ from the numbers shown in Appendix A which represent the average number in employment for the whole year.

Retail Stores Employment.

4. Practically the whole field of retail stores employment is subject to well defined seasonal variations, the most outstanding feature being the rise to a very high peak in December. But, as with factory employment, it is not possible from available statistics in any State to determine the ratio of the aggregate numbers of temporary employees actually at work in the months of maximum and minimum activity to the numbers of permanent employees constantly at work. On the indications of seasonal indexes based on employment in sample retail stores, however, it can be shown that employment in retail stores in Victoria contracts by 5.0 per cent. of average employment in the slackest month and expands by 13.9 per cent. in the busiest month, whereas the contraction and expansion in Queensland are 1.8 per cent. and 10.5 per cent. respectively.

In other States the range of contraction and expansion lies between the limits for Victoria and Queensland. (See Table below and Appendix B.).

Rural Industries Employment.

5. In the rural industries (agriculture, pastoral, dairying) in New South Wales, South Australia and Western Australia, the number of casual or temporary employees at work in the busiest month is probably about equal to the number of employees permanently at work. In Tasmania, however, the number of casuals or temporaries is slightly larger than the number of permanents, and in Queensland substantially larger. In Victoria, on the other hand, the number of casuals or temporaries at work in the busiest month is probably little more than half the number constantly at work, mainly because of the relatively higher proportion of total persons permanently engaged represented by permanent employees in dairying. On the basis of tentative seasonal indexes constructed from such data as have been available, it can be shown that employment in the rural industries in Tasmania, at the one extreme, contracts by 17.0 per cent. of average employment in the slackest month and expands by 23.3 per cent. in the busiest month, and in Queensland, at the other extreme, contracts by 11.2 per cent. and expands by 7.6 per cent. Other States have a range of variation between minimum and maximum only somewhat less spread than that of Tasmania. It should be noted that the monthly variations in employment in agricultural, pastoral and dairying industries in Tasmania are based on recorded wages tax returns, not on estimates. Despite the estimated narrower range of variation between minimum and maximum in Queensland, seasonal employment of temporary workers is probably more pronounced relatively, but more evenly spread throughout the year, in that State than in other States.

6. The facts brought out in the preceding paragraphs are summarised in greater detail in the following table, based on data drawn from Appendices A., B., C. and D. The table gives estimates of the approximate magnitude of employment and of the probable extent of contraction and expansion (derived from tentative seasonal indexes) in a "normal" year (1938-1939) in the three main fields subject to seasonal variation.

/AUSTRALIA

AUSTRALIA - SIX STATES.

ESTIMATED MAGNITUDE AND RANGE OF SEASONAL EMPLOYMENT IN FACTORIES, RETAIL STORES AND
AGRICULTURAL, PASTORAL AND DAIRYING INDUSTRIES, 1938-39.

State	Factories subject to Seasonal Variation						Retail Stores						Agriculture, Pastoral, Dairying					
	Wage or Salary Earners Employed						Wage or Salary Earners Employed						Wage or Salary Earners Employed					
	Average	Minimum and Per Cent. Deviation from Average		Maximum and Per Cent. Deviation from Average			Average	Minimum and Per Cent. Deviation from Average		Maximum and Per Cent. Deviation from Average			Average	Minimum and Per Cent. Deviation from Average		Maximum and Per Cent. Deviation from Average		
			%		%				%		%				%		%	
New South Wales ..	55,112	52,470 (Jan.)	-4.8	57,200 (Mar.)	+3.8		82,450	80,540 (Sep.)	-2.3	92,000	+11.6		67,793	58,602 (Feb.-Mar.)	-13.5	81,722 (Nov.)	+20.6	
Victoria ..	64,410	61,000 (July)	-5.3	68,460 (Mar.)	+6.3		49,195	46,760 (Aug.)	-5.0	56,000 (Dec.)	+13.9		42,434	38,347 (Mar.-Apr.)	-9.6	47,587 (Dec.)	+12.1	
Queensland ..	22,404	17,700 (Jan.)	-21.0	25,360 (Sep.)	+13.2		25,770	25,300 (Sep.)	-1.8	28,480 (Dec.)	+10.5		42,237	37,517 (Feb.)	-11.2	45,467 (Aug.)	+7.6	
South Australia ..	11,097	10,380 (July)	-6.5	12,187 (April)	+9.7		20,889	20,390 (Mar.)	-2.4	23,080 (Dec.)	+10.5		24,500	21,399 (July)	-12.7	28,860 (Dec.)	+17.8	
Western Australia ..	6,106	5,910 (July)	-4.6	6,766 (Mar.)	+2.9		12,760	12,350 (Sep.)	-3.2	14,140 (Dec.)	+10.8		16,883	14,450 (July)	-14.4	19,694 (Dec.)	+16.6	
Tasmania ..	4,446	3,934 (Sep.)	-11.5	5,127 (Feb.-Mar.)	+15.3		6,637	6,490 (Sept.)	-2.2	7,348 (Dec.)	+10.7		11,586	9,614 (July)	-17.0	14,292 (Mar.)	+23.3	
<u>SIX STATES:</u>	163,575	158,760 (July)	-3.0	170,308 (Mar.)	+4.0		197,701	192,816 (Sep.)	-2.5	221,048 (Dec.)	+11.8		205,433	191,058 (Feb.)	-7.0	229,066 (Nov.)	+11.5	

7. Inspection of the percentage deviations in this table shows that, relative to the average numbers employed in the respective fields, the range of seasonal variation from minimum to maximum in employment in all States except Queensland is much more marked in the rural industries than in manufacturing or retail trade. In Queensland, however, the range is relatively greatest in manufacturing, although the number of additional workers required in the busiest month, as compared with the slackest month, is about the same in rural industries and manufacturing. In Tasmania, and of course Queensland, the range of variation is greater in manufacturing than in retail shop employment, but this is not the case in the other States. If the six States combined be regarded as an entity, it will be seen that for a "normal" year the range of deviations from average employment as between minimum and maximum is 18.5 per cent. in the rural industries. 14.0 per cent. in retail stores, and 7.0 per cent. in those manufacturing industries subject to seasonal variation. Taking into account the "weight" of employment in the respective fields, it can be concluded that for Australia as a whole the demand for seasonal labour is greatest in November and December, is least in January and February, and is also low in the period July to September.

3. THE MEASUREMENT OF SEASONALITY IN EMPLOYMENT.

Total Employment.

8. For total employment in all fields of activity, satisfactory statistical measures of normal seasonal variation are available only for New South Wales and Tasmania. In these two States what is virtually total recorded employment by months, given in wages tax and governmental employment returns, is available for a number of years, and it is therefore possible from these figures to derive an index of seasonal variation for total employment. In Queensland the monthly number of contributors to the Unemployment Insurance Fund (about 62 per cent. of the estimated average total number of employees at work) is also available for a number of years. These monthly figures provide the basis for a general Index of seasonal employment constructed by the Queensland Bureau of Industry. No comparable measures of seasonal variation in general employment, not based upon seasonality in particular fields of activity, are yet available for Victoria, South Australia and Western Australia.

Factories and Retail Stores.

9. In all States monthly figures of employment in all factories and in a representative number of retail stores have now been available for a sufficient number of years to permit the construction of what should be reliable seasonal indexes for manufacturing and retail stores employment, respectively, as a whole. Seasonal indexes were therefore prepared from these monthly data (see Appendix B).

10. While practically the whole field of retail selling may be regarded as liable to well-established seasonal influences, this is not so with the whole field of manufacturing. For the purpose of this investigation the monthly movements in factory employment over several years in each State were carefully scrutinised and a selection made of those industries in which employment appeared to conform to a seasonal pattern (see Appendix C). The number selected was 25 in New South Wales, 24 in Victoria, 23 in Queensland, 21 in South Australia, 19 in Western Australia and 14 in Tasmania. A further scrutiny of these industries led to their being classed in two groups - (i) those directly affected by seasonal variations in rural production (13 in New South Wales, 12 in Victoria, 12 in Queensland, 10 in South Australia, 10 in Western Australia and 7 in Tasmania), and (ii) those affected chiefly by seasonal variations in demand on the home market (12 in New South Wales, 12 in Victoria, 11 in Queensland, 11 in South Australia, 9 in Western Australia and 7 in Tasmania). It is interesting to observe from Appendix C that, in terms of average employment, the group directly affected by seasonal variations in production is a high proportion of all manufacturing industries subject to seasonal influences in Queensland (67.4%), Western Australia (61.5%) and Tasmania (57.8%), a low proportion in New South Wales (24.7%) and Victoria (28.3%), and little under half in South Australia (46.1%). Records of monthly employment in all these seasonal manufacturing industries are available in each State, with the exception of Victoria, only for the years 1936-1937 to 1938-39 inclusive, the records for Victoria being available from as early as 1933-1934. The number of years for which these monthly records are available is too small to permit the derivation of really satisfactory seasonal indexes. In the absence of any better data, however, tentative seasonal indexes (of very doubtful utility for particular months in Tasmania) were constructed for the total in each

State of the industries conforming to a seasonal pattern and for each of the groups into which they were divided.

Rural Industries.

11. Since no comprehensive or fully representative current monthly records of employees engaged in the agricultural, pastoral and dairying industries are yet available for any State, recourse was had, in the construction of rough seasonal indexes, to the partly statistical and partly non-statistical procedure described briefly in Explanatory Note (e) to Appendix A. Some doubts may attach to the specific range of amplitude shown in these indexes and the absolute numbers estimated from them (see Appendix D) in New South Wales, Victoria, South Australia and Western Australia, but the range of the actually recorded numbers in Tasmania may be taken (as suggested in paragraph 5 above) as some confirmation of its reasonable correctness. The Tasmanian recorded experiences cannot, however, be used as confirmation of the variations in magnitude in Queensland, the estimation of which was based on variations in unemployment registrations outside the Brisbane area.

12. The information about seasonal variations in activity in agriculture, the pastoral industry and dairying shown in Appendix E was collated from data available to the Bureau and checked by reference to the State Departments of Agriculture, and its use constituted part of the non-statistical procedure referred to above. Appendix E was constructed to show the periods of maximum and minimum labour requirements necessary for the production of specific crops and for specific operations in the pastoral and dairying industries. It is not usual for a primary producer to confine his activities to one type of commodity. Hence only on properties devoted entirely to one crop or one activity will the data relate strictly to farming practice. The periods indicated in Appendix E should be regarded as relatively elastic and liable to modification from year to year by environmental, varietal and abnormal seasonal factors. The periods cover the months in which activity is tending either to a maximum or a minimum in terms of man-hours worked per day in some district or other within the State.

13. The summary information set out in Appendix F shows, as far as possible, the busiest and quietest months in each State as a whole resulting from the combination of all types of operation. The Appendix was built up from the summation of specific types of "busy period" activity shown in Appendix E, due regard being given, however, to the weight of predominant types of activity in each State.

4. USES AND LIMITATIONS OF THESE MEASURES OF SEASONALITY.

14. It is generally agreed that our statistical knowledge of seasonal variations in employment is far from satisfactory. A seasonal index is useful in so far as it permits a quantitative judgment to be made of the degree to which actual experience in any month has varied from the normal experience of that month over a period of years, due allowance being made also for normal trend. Even if the patterns of seasonality shown in index form in this memorandum for broad sections of the Australian economy could be made completely accurate, there would still be severe limitations to their utility for practical purposes. For many practical purposes in private business and public administration it is desirable to know the seasonal experience of individual business units and of groups of units producing or selling substantially similar commodities or services. Such groups may or may not correspond to the orders, sub-orders and code numbers of "industries" statistically so-described. It is obvious that the greater the number of subdivisions of a group as large as an "industry" order or sub-order, with each subdivision having its own peculiar pattern of seasonality, the less certain we can be that a seasonal index for the group will exactly reflect the experience of any one subdivision or of the individual businesses within it. This must be the case when, for instance, a group comprises all enterprises in agriculture, the pastoral industry and dairying, or, say, those factories "affected by variations in rural production".

15. The indexes used in this memorandum are all of this broad general character. They relate not only to broad industrial categories but also to State aggregates for those categories. There remains ample scope for the construction of

/indexes

indexes for narrower groups subdivided geographically. Such indexes would in addition to their other uses, serve as a valuable guide in dealing with the problem of determining the most appropriate months for the calling up of military trainees for camp training, especially in relation to the needs of the rural industries in particular districts and the busy-season requirements of retailers. In the absence of these more specific indexes of seasonality for districts within each State, and until the basic data for their construction become available, at least some guidance can be offered by such broad-category indexes for States as geographical units as are shown in this memorandum. In addition to their utility in connection with problems of the best disposition of man-power in war-time, seasonal indexes of this character may be expected to have a value in investigations of numerous economic and statistical problems of general character.

APPENDICES.

- APPENDIX A. Australia. Estimated Distribution of Average Total Monthly Employment (Persons) in Various Fields of Employment in each State, 1938-1939. (With Explanatory Notes).
- APPENDIX B. Australia. Seasonal Indexes of Employment in each State.
- APPENDIX C. Australia. Average Employment (Persons) in Manufacturing Industries subject to Seasonal Variations in each State, 1938-1939.
- APPENDIX D. Australia. Estimates of Fluctuations in Rural Employment in each State, 1938-1939.
- APPENDIX E. Seasonal Variations in Activity in Agriculture, Pastoral Industry and Dairying.
- (1) New South Wales.
 - (2) Victoria.
 - (3) Queensland.
 - (4) South Australia.
 - (5) Western Australia.
 - (6) Tasmania.
- APPENDIX F. Australia. Summary of Seasonal Requirements of Labour on Farms, Orchards, Pastoral Properties, etc. Busiest and Quietest Months in each State.
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ESTIMATED DISTRIBUTION OF AVERAGE TOTAL MON
OF EMPLOYMENT

1936

(See Explan

Fields of Employment	See Ex- plan- atory Note	NEW SOUTH WALES		VICTORIA		En
		No. in Employment	%	No. in Employment	%	
<u>PRINCIPAL FIELDS</u>						
<u>Public Authority</u> (including Government Railways; excluding Government Factories)	(a)	138,544	16.4	97,177	15.9	
<u>Factory</u> (including Government Factories)	(b)	221,077	26.1	194,071	31.7	
<u>Retail Stores</u>	(c)	82,450	9.7	49,195	8.0	
<u>Mining</u>	(d)	23,305	2.8	4,044	0.7	
<u>Agriculture, Pastoral, Dairying -</u>	(e)					
(1) Permanent Employees		41,522	4.9	30,847	5.0	1
(2) Casual Employees -						
(i) Minimum		17,000		7,500		1
(ii) Maximum		(Feb. - Mar.) 40,000		(Mar., Apr.) 16,740		2
(iii) Average		(Nov.) 26,271	3.1	(Dec.) 11,587	1.9	2
Total (Average)		67,793	8.0	42,434	6.9	
<u>ALL OTHER FIELDS</u>						
<u>Building</u>	(f)	26,850	3.2	18,840	3.1	
<u>Wholesale Trade</u>	(g)	28,159	3.3)))
<u>Other Commercial</u>	(h))))))
<u>Private Transport</u>	(h))))))
<u>Professional</u>	(h)	248,955	29.4	196,203	32.0)
<u>Domestic</u>	(h))))))
(i) Hotels, Boarding Houses, etc. ..	(h))))))
(ii) Private	(j))))))
<u>Part-time Relief Workers</u> (Full-time Equivalent)	(k)	9,356	1.1	10,121	1.7	
<u>ESTIMATED TOTAL EMPLOYMENT:</u>	(1)	846,489	100.0	612,085	100.0	

TABLE.

EMPLOYMENT (PERSONS) IN VARIOUS FIELDS
IN EACH STATE.

R.S.M.32

APPENDIX A

1913.

(Notes)

QUEENSLAND		SOUTH AUSTRALIA		WESTERN AUSTRALIA		TASMANIA		SIX STATES	
No. in employment	%	No. in Employment	%	No. in Employment	%	No. in Employment	%	No. in Employment	%
54,686	21.2	31,952	17.1	28,145	17.6	12,131	18.0	362,635	17.0
51,652	20.0	41,773	22.4	21,999	13.7	11,580	17.2	542,152	25.4
25,770	10.0	20,889	11.2	12,760	8.0	(13,169) 6,637	(13.6) 9.8	(543,741) 197,701	(25.5) 9.3
8,250	3.2	832	0.4	11,427	7.1	3,610	5.4	51,468	2.4
18,237	7.1	14,810	7.9	10,644	6.6	6,533	9.7	122,593	5.8
19,120 (Feb.)		6,590 (July)		3,800 (July)		3,080 (July)		68,465 (Feb.)	
27,000 (Aug.)		14,050 (Dec.)		9,050 (Dec.)		7,759 (Mar.)		106,473 (Nov.)	
24,000	9.3	9,690	5.2	6,239	3.9	5,053	7.5	82,840	3.9
42,237	16.4	24,500	13.1	16,883	10.5	11,586	17.2	205,433	9.7
7,500	2.9	4,776	2.6	3,170	2.0	1,905	2.8	63,041	3.0
		)	)	)	)	1,651	2.5))
		)	)	)	)	2,332	3.5))
		)	)	)	)	3,548	5.3))
61,675	24.0	61,873	33.1	63,417	39.5	3,452	5.1	679,091	31.9
		)	)	)	)	2,826	4.2))
		)	)	)	)	5,000	7.4))
5,980	2.3	258	.1	2,496	1.6	1,056	1.6	29,217	1.3
257,100	100.0	186,853	100.0	160,297	100.0	67,314	100.0	2,130,738	100.0

- (a) Public Authority: Commonwealth, State, Semi-government and Local Government Authorities. Excludes part-time relief workers.
- (b) Factory: For New South Wales, Victoria, Queensland, South Australia and Western Australia average for whole year as shown in factory statistics. For Tasmania average mid-monthly employment based on wages tax returns of employees engaged predominantly in manufacturing. The average for whole year for Tasmania (factory statistics) was 13,169 or 19.3 per cent. of estimated total employment in the State. This percentage, rather than 17.2 per cent. is comparable with percentages shown for other States, and the consequent adjustment of the percentage for the six States combined is from 25.4 to 25.5.
- (c) Retail Stores: Figures not strictly comparable between States. For New South Wales wages tax figures adjusted to approximate parity with totals derived from shop registrations. Figure includes all employees - not merely shop assistants. For Tasmania averaged mid-monthly employment (all employees - not merely shop assistants) based on wages tax returns. For Queensland estimate based on shop registrations. For Victoria, South Australia and Western Australia estimate based on shop registrations, but excludes members of proprietors' families who are wage or salary earners.
- (d) Mining: For New South Wales and Tasmania average mid-monthly employment based on wages tax returns (Employees in New South Wales State Coal Mine - about 400 - duplicated here with Public Authority). For other States approximate average number of wage earners based on Production Bulletin mining statistics.
- (e) Agriculture, Pastoral and Dairying:
 For New South Wales permanent employees as shown in A. and P. return. Minimum, maximum and average number of casual employees estimated as follows:- (i) Estimate from National Register results the number of male wage or salary earners in employment in July - August, 1939. Assume this number (69,150) to represent approximately the number employed in July, 1938. (ii) From this number subtract 40,777 males permanently employed in 1938-39, thus obtaining 28,373 casuals (males) employed in July, 1938. (Casual females assumed to be negligible). (iii) Vary the 28,373 according to a rough seasonal index based on (with adjustments) the monthly changes in the number of employees of employers with 10 or more taxable employees paying wages tax monthly. Thus the minimum number of casuals employed is 17,080 in February and March, the maximum is 46,200 in November, and the average number for the year is 26,271.
 For Tasmania permanent employees as shown in Statistics of Tasmania, Part V (i), p.15. Minimum, maximum and average number of casuals obtained as follows:- (i) For males subtract the number permanently employed (6,066) from the total shown as employed each month according to wages tax returns; thus the minimum of male casuals employed is 3,081 in July, the maximum 6,278 in March. (ii) For females subtract the number permanently employed (467) from total shown as employed in July, the month of minimum employment. The resulting figure (905), is assumed to be entirely unaided helpere. The increase on this figure in other months (maximum 1,481 in March) is assumed to represent casual female labour (mostly fruit-pickers). (iii) Combine the monthly male and female figures, which gives the minimum of casuals employed as 3,081 in July, the maximum as 7,759 in March and the average for the year as 5,051.
 For Queensland permanent employees as shown in A. and P. return. Average number of casual employees (i.e., temporary workers on a full-time basis) estimated by Queensland Bureau of Industry by dividing total of wages and other money paid to casual (temporary) workers during the year by average cash wages (computed by the Bureau of Industry) and excluding from the resulting figure a due proportion representing occupiers and members of their families. The minimum and maximum numbers of temporary employees was estimated as follows:- (i) An index of seasonal movements in rural casual unemployment was constructed from movements in the monthly registrations of unemployed outside the Brisbane area. The index for July = 76. (ii) Let x = average number of casuals unemployed. Average number of casuals employed = 24,000 (i.e. full-time equivalent of temporary workers as estimated by Bureau of Industry). Number of casuals employed in July, 1938 (derived by subtracting 16,870 males from 43,634 males in employment as estimated from National Register results) = 26,764 and number of unemployed = 100. Casuals available for employment (assumed to be constant throughout the year) = $24,000 + x = 26,764 + \frac{100}{76}$. Therefore the average number unemployed (x) = 11,520 and the number of casuals available = $24,000 + 11,520 = 35,520$. (iii) The minimum number of casuals employed was

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520 - 141% of 11,520 = 19,280) in February, and the maximum (35,520 - 72% of 20 = 27,230) in August.

Victoria, South Australia and Western Australia permanent employees derived from returns of all persons permanently "engaged", as shown in A. and P. returns. To the returns for males and females permanently engaged in Western Australia apply the percentages which the number of wage-paid employees (male and female) represents of the number of males and females permanently engaged in New South Wales, i.e., 32.27 per cent. (males), 10.5 per cent. (females) in 1938-39. Use the same method for Victoria but using male percentage to 30.0, and for South Australia, varying male percentage to 20.0, because of higher proportion of persons engaged in dairying in Victoria and lower proportion in South Australia than in New South Wales. The Western Australian proportion engaged in dairying is little different from that of New South Wales. Minimum, maximum and average number of casuals obtained as follows:- (i) The estimated number of casuals in employment in July, 1938 was obtained by subtracting the estimated number of persons permanently employed from the estimated total number employed derived from National Register results. (The number of female casuals was assumed to be negligible). (ii) The estimated number of casuals in employment in July was then varied according to a seasonal index of seasonal employment for casuals based on the New South Wales seasonal index (referred to above), adjustments being made in the light of known differences in types and importance of rural production in the States concerned. (iii) Minimum, maximum and average numbers of casuals employed were observed from the variations so obtained.

Building: For New South Wales, Victoria, Queensland, South Australia and Western Australia estimates based on National Register results. For Tasmania average mid-monthly employment based on wages tax returns.

Wholesale Trade: For New South Wales and Tasmania average mid-monthly employment based on Wages Tax returns.

Other Commercial: For Tasmania average mid-monthly employment based on wages tax returns.

Domestic, private: For Tasmania estimate based on number shown in private domestic employment at Census, 1933, assumed to have remained unchanged by 1938-39.

Part-time Relief Workers: For New South Wales computed by Government Statistician. For Tasmania the average mid-monthly number of persons working for sustenance (as shown in the Tasmanian Economy in 1938-39, Appendix C) plus the average mid-monthly number of part-time relief workers in Public Authority Employment (as shown in returns of Deputy Commonwealth Statistician). For Victoria full-time equivalent of number working for sustenance plus average number on part-time relief work. For Queensland average of full-time equivalent of intermittent relief workers July, 1938, computed by Government Statistician. For Western Australia average of approximate full-time equivalent part-time relief workers, July, 1938 and July, 1939, computed by Department of Employment. For South Australia full-time equivalent of number working for sustenance and/or rent (average July, 1938 and July, 1939), computed by the Government Statist.

Estimated Total Employment:

New South Wales estimated total employment based on Public Authority returns and wages tax returns of private employment. No separate estimate made of total number employed in Other Commercial, Private Transport, Professional and Domestic.

Queensland total employees in work estimated by Bureau of Industry by totalling number of insured employees, estimated number of persons evading insurance, estimated number of employees under 18 in insurable work, estimated number of employees on salaries above limits for insurance (including exempt managers and overseers), and estimated number of uninsurable employees in work. No separate estimates made for Wholesale Trade, Other Commercial, Private Transport, Professional and Domestic.

Tasmania estimated total employment based on Public Authority returns and wages tax returns of private employment. This figure, after a slight adjustment for Agricultural, Pastoral and Dairying employees, is distributed over all fields shown in the table, except Private Domestic and Part-time Relief Workers (see notes (j) and (k).) The estimated numbers for these two latter fields add 5,000 and 1,056 respectively to total reduced employment figure as adjusted. The figure 1,056 for Part-time Relief Workers is made up of 820 sustenance workers and of 236 part-time relief workers deducted from the Deputy Commonwealth Statistician's figure of 12,367 for Public Authorities, the net return for Public Authorities being 12,131. The total in all fields is therefore 314.

Victoria, South Australia and Western Australia estimated total employment based on returns of wage or salary earners (full and part-time) recorded as actually employed at date of the Census of 1933. It has been assumed that since then total employment

has fluctuated in the same directions, though not quite in the same degree, as fluctuations in that part of total employment which can be currently "measured", either by actual counting or by estimation from "sample" data. The nature and long-term trend of the more important elements in the field which is currently "unmeasured" (but which, nevertheless, has been recorded in some detail at the Censuses of 1911, 1921 and 1931) suggest the desirability for this purpose of distinguishing between that part of the "unmeasured" field of employment which is relatively elastic, and that part which is relatively inelastic. For the period subsequent to the 1933 Census, therefore, the inelastic part has been assumed (partly as a technical device) to have remained completely constant in Victoria and South Australia, while the elastic part of the field has been assumed to have fluctuated in those two States proportionately with fluctuations in the elastic elements in the measured field. In Western Australia it has been assumed that the development of the gold mining industry has given about as much elasticity to most of the "unmeasured" field as has been experienced by the "measured".

Y NOTES.

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INDEXES OF SEASONAL VARIATIONS

L = Minimum. H = Maximum

NEW SOUTH WALES

Particulars	Total Employment	FACTORY EMPLOYMENT	
		All Factories	Affected by Variations in Rural Production
Average Monthly Number ..	846,489	219,496	13,597
Average Number as Per Cent. of Total Employment ..	100.0	25.9	1.6
<u>Month</u>	(a)	(b)	(b)
July ..	98.5	98.2L	95.3L
August ..	99.6	99.0	96.5
September ..	100.1	99.4	95.7
October ..	101.0	100.7	97.6
November ..	101.2	101.8H	100.3
December ..	102.9H	101.6	105.3
January ..	98.6L	98.5	96.1
February ..	99.2	100.3	104.7
March ..	99.4	101.4	111.7H
April ..	99.2	100.1	103.7
May ..	99.5	99.9	97.7
June ..	99.3	99.3	95.3L
Period on which Index is based ..	1933-34 to 1939-40	1933-34 to 1939-40	1933-34 to 1939-40

- (a) Combined Public authority employment and wages tax returns of private employers.
 (c) Employment in 599 retail stores with 10 or more employees, representing 99.9 per cent. of total retail employment.
 (d) Casual or temporary employment as estimated by method described in Note 1, plus casual employees as estimated by use of seasonal index in previous years.

VICTORIA

Particulars	FACTORY EMPLOYMENT		
	All Factories	Affected by Variations in Rural Production	Affected by Variations in Home Industries
Average Monthly Number ..	193,854	18,243	46,100
Average Number as Per Cent. of Total Employment ..	31.7	3.0	7.5
<u>Month</u>	(a)	(a)	(a)
July ..	97.4L	86.2L	97.4L
August ..	98.2	87.5	99.0
September ..	98.3	92.2	101.0
October ..	101.3	101.9	102.0
November ..	102.1	105.3	103.0
December ..	101.2	104.0	99.0
January ..	97.3	102.7	93.0
February ..	101.2	111.8	99.0
March ..	102.5H	118.1H	101.0
April ..	101.1	106.1	101.0
May ..	100.1	94.3	101.0
June ..	98.3	90.1	97.0
Period on which Index is based ..	1927-28 to 1939-40	1933-34 to 1939-40	1933-34 to 1939-40

- (a) Annual factory returns of monthly employment. (b) Employment in 102 retail stores.
 (c) Casual or temporary employment as estimated by method described in Note 1, plus casual employees in 1938-39 combined with casual employees as estimated by use of seasonal index in previous years.

EMPLOYMENT			RURAL INDUSTRIES EMPLOYMENT	
Affected by Variations in Home Market Demand	All Factories subject to Seasonal Variations	Retail Stores Employment	Casual or Temporary Employees	All Employees
41,515	55,112	82,450	26,271	67,793
4.9	6.5	9.7	3.1	8.0
(b)	(b)	(c)	(d)	(e)
98.5	97.6	100.9	108.0	103.1
99.7	98.8	98.0L	120.0	107.8
100.6	99.2	97.7	130.0	111.6
101.9	100.7	98.3	136.0	114.0
102.5H	101.9	100.3	153.0H	120.6H
100.8	101.9	111.6H	120.0	107.8
95.0L	95.2L	98.6	71.0	88.8
99.9	101.1	100.7	65.0L	86.5L
101.2	103.8H	98.1	65.0L	86.5L
101.0	101.8	98.4	74.0	90.0
100.6	99.9	99.0	78.0	91.5
99.2	98.2	98.9	80.0	92.2
1936-37 to 1938-39		1933-34 to 1939-40	1938-39 and 1939-40	

employment. (b) Annual factory returns of monthly employment.
about 63 per cent. of employees in all retail stores.

(e), Appendix A. (e) Permanent employees in 1938-39 combined
column.

			RURAL INDUSTRIES EMPLOYMENT	
and by one in market and	All Factories subject to Seasonal Variations	Retail Stores Employment	Casual or Temporary Employees	All Employees
67	64,410	49,195	11,587	42,434
5	10.5	8.0	1.9	6.9
	(a)	(b)	(c)	(d)
6	94.7L	96.5	104.0	101.1
5	96.4	95.0L	115.0	104.0
8	98.9	95.6	120.0	105.3
8	102.6	98.8	123.0	106.1
6H	104.0	102.0	129.0	107.8
9	100.8	113.9H	145.0H	112.1H
1L	95.5	100.7	114.0	103.7
6	102.9	99.7	71.0	92.0
6	106.3H	99.5	65.0L	90.4L
1	102.9	99.0	65.0L	90.4L
1	99.2	99.5	75.0	93.1
9	96.1	99.9	78.0	93.9
1938-39		1933-34 to 1939-40	1938-39 and 1939-40	

sample retail stores, representing about 50 per cent. of employees
by method described in Note (e), Appendix A. (d) Permanent em-
of seasonal index in previous column.

INDEXES OF SEASONAL VARIATIONS

L = minimum. H = maximum

QUEENSLAND.

Particulars	Insurable Employment	FACTORY EMPLOYMENT	
		All Factories	Affected by Variations in Rural Production
Average Monthly Number ..	160,000	51,552	15,092
Average Number as Per Cent. of Total Employment ..	62.0	20.0	5.9
<u>Month</u>	(a)	(b)	(b)
July ..	101.1	101.2	110.1
August ..	107.6	103.4	116.1
September ..	105.5	104.3	119.2H
October ..	106.9	106.2H	115.8
November ..	108.1H	105.1	109.7
December ..	105.2	100.8	96.5
January ..	98.8	91.2L	70.6L
February ..	93.8	95.0	82.4
March ..	90.4L	97.5	89.6
April ..	90.6	96.4	88.3
May ..	93.8	99.0	97.8
June ..	98.2	99.9	104.8
Period on which Index is based ..	1928-29 to 1938-39	1929-30 to 1939-40	1936-37

- (a) as estimated by Queensland Bureau of Industry from monthly contributions represent normally 62 per cent. of the estimated total number employment. (c) Employment in 120 retail stores, representing (a) Casual or temporary employment as estimated by method described in combined with temporary employees as estimated by use of seasonal index

SOUTH AUSTRALIA.

Particulars		FACTORY EMPLOYMENT		
		All Factories	Affected by Variations in Rural Production	Affected by Variations in Home Industries
Average Monthly Number ..		42,018	5,117	
Average Number as Per Cent. of Total Employment ..		22.5	2.7	
<u>Month</u>		(a)	(a)	
July ..		97.8L	92.1	
August ..		91.1	92.5	
September ..		98.2	92.7	
October ..		99.4	92.1	
November ..		99.5	91.3L	
December ..		100.8	92.8	
January ..		99.5	97.5	
February ..		101.4	102.5	
March ..		102.8H	117.2	
April ..		102.6	120.2H	
May ..		101.3	110.7	
June ..		98.4	98.5	
Period on which Index is based ..		1929-30 to 1939-40		1936-37

- (a) Annual factory returns of monthly employment. (b) Employment in all retail stores. (c) Casual or temporary employment as estimated in 1938-39 combined with temporary employees as estimated

IN EMPLOYMENT.

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APPENDIX B.

(Continued)

EMPLOYMENT		Retail Stores Employment	RURAL INDUSTRIES EMPLOYMENT	
Affected by Variations in Home Market Demand	All Factories subject to Seasonal Variations		Casual or Temporary Employees	All Employees
7,312	22,404	25,770	24,000	42,237
2.8	8.7	10.0	9.3	16.4
(b)	(b)	(c)	(d)	(e)
96.5	105.5	99.0	112.0	106.5
100.4	110.8	98.7	113.0H	107.6H
101.5	113.2H	98.2L	112.0	106.7
103.8	111.9	98.3	110.0	105.7
105.0H	108.0	100.5	107.0	103.8
104.7	99.2	110.5H	93.0	96.2
95.6L	79.0L	99.6	81.0	89.1
100.1	88.3	98.7	80.0L	88.8L
99.8	93.0	98.4	85.0	91.3
97.7	91.4	98.6	93.0	96.2
98.0	97.8	99.6	103.0	101.6
96.7	102.0	99.7	111.0	106.3
1936-37 to 1938-39		1933-34 to 1939-40	1938-39 and 1939-40	

tutions to the Unemployment Insurance Fund. Contributors to the
of employees in work. (d) Annual factory returns of monthly
at least; 27 per cent. of employment in all retail stores.
Note (e), Appendix A. (e) Permanent employees in 1938-39 com-
ex in previous column.

EMPLOYMENT		Retail Stores Employment	RURAL INDUSTRIES EMPLOYMENT	
Affected by Variations in Home Market Demand	All Factories subject to Seasonal Variations		Casual or Temporary Employees	All Employees
5,980	11,097	20,889	9,690	24,500
3.2	5.9	11.2	5.2	13.1
(a)	(a)	(b)	(c)	(d)
94.9L	93.5L	99.6	68.0L	87.3L
98.8	95.8	98.4	70.0	88.1
102.4	97.8	101.1	74.0	89.7
106.0H	99.5	97.9	123.0	109.1
105.2	98.7	100.0	129.0	111.5
102.4	98.0	110.5H	145.0H	117.8H
95.6	96.7	99.2	120.0	107.9
100.9	101.8	98.1	110.0	104.0
100.8	108.7	97.6L	105.0	102.0
99.6	109.7H	98.7	88.0	95.3
97.2	103.1	99.2	85.0	94.1
96.0	97.1	99.4	83.0	93.3
to 1938-39		1933-34 to 1939-40	1938-39 and 1939-40	

35 retail stores, representing about 32 per cent. of employment
estimated by method described in Note (e), Appendix A. (d) Per-
estimated by use of seasonal index in previous column.

INDEXES OF SEASONAL VARIATIONS

L = Minimum. H = Max

WESTERN AUSTRALIA

Particulars	FACTORY EMPLOYMENT		
	All Factories	Affected by Variations in Rural Production	Affected by Variations in Home Industries
Average Monthly Number ..	22,089	3,756	2,3
Average Number as Per Cent. of Total Employment ..	13.8	2.3	1.
<u>Month</u>	(a)	(a)	(a)
July ..	97.9L	97.2	92.
August ..	97.9L	97.9	95.
September ..	98.3	95.4L	100.
October ..	100.4	96.8	105.
November ..	101.4	97.9	105.
December ..	102.2H	99.4	106.
January ..	100.6	98.6	102.
February ..	101.4	100.8	102.
March ..	101.2	104.2	100.
April ..	100.5	104.9H	98.
May ..	99.8	104.9H	96.
June ..	98.4	102.0	93.
Period on which Index is based	1933-34 to 1939-40	1936-37 to 1939-40	

(a) Annual factory returns of monthly employment. (b) Employment in all retail stores. (c) Casual or temporary employees
(i) Permanent employees in 1938-39 combined with temporary employees

TASMANIA.

Particulars	Total Employment	FACTORY EMPLOYMENT	
		All Factories	Affected by Variations in Rural Production
Average Monthly Number ..	67,314	13,162	2,568
Average Number as Per Cent. of Total Employment ..	100.0	19.6	3.8
<u>Month</u>	(a)	(b)	(b)(c)
July ..	97.9	95.9	85.5
August ..	98.2	95.1L	82.1
September ..	97.8	95.4	81.8L
October ..	98.2	97.7	90.3
November ..	99.8	99.4	94.4
December ..	102.0	101.9	102.4
January ..	102.5	102.3	113.1
February ..	101.9	106.3H	125.6H
March ..	105.6H	104.9	121.6
April ..	101.8	102.0	107.1
May ..	99.2	100.7	100.8
June ..	94.8L	98.3	95.6
Period on which Index is based ..	1936-37 to 1939-40	1933-34 to 1939-40	1936-37 to 1939-40

(a) Estimated total employment based on Public Authority employment factory returns of monthly employment. (c) Of doubtful utility showing rise from winter to late summer months. (d) Employment in all retail stores. (e) Based on one year (1938-39) in agricultural, pastoral and dairying industries for each by method described in Note (e), Appendix A. (g) All employees rendering wages tax returns in 1938-39.

d by ns in rket nd	All Factories subject to Seasonal Variations	Retail Stores Employment	RURAL INDUSTRIES EMPLOYMENT	
			Casual or Temporary Employees	All Employees
50	6,106	12,760	6,239	16,883
5	3.8	8.0	3.9	10.5
	(a)	(b)	(c)	(d)
5L	95.4L	101.5	61.0L	85.6L
1	96.9	97.3	70.0	88.9
7	97.5	96.8L	90.0	96.3
1	99.9	98.5	126.0	109.6
6	100.8	100.1	129.0	110.7
QH	101.9	110.8H	145.0H	116.6H
9	100.1	103.0	120.0	107.4
9	101.5	98.2	117.0	106.3
8	102.9H	98.4	106.0	102.2
3	102.3	98.1	88.0	95.6
5	101.8	98.5	80.0	92.6
7	98.9	98.1	68.0	88.2
1938-39		1933-34 to 1939-40	1938-39 and 1939-40	

in 69 retail stores representing about 41 per cent. of employ-
as estimated by method described in Note (e), Appendix A.
as estimated by use of seasonal index in previous column.

EMPLOYMENT	All Factories subject to Seasonal Variations	Retail Stores Employment	RURAL INDUSTRIES EMPLOYMENT	
			Casual or Temporary Employees	All Employees
1,878	4,446	6,637	5,053	11,586
2.8	6.6	9.8	7.5	17.2
(b)(c)	(b)(c)	(d)	(e)(f)	(e)(g)
98.9	91.1	100.4	60.0L	83.0L
97.6	88.6	98.0	69.0	86.5
97.4L	88.5L	97.8L	75.0	89.3
98.9	93.9	98.4	83.0	92.4
99.6	96.7	100.0	103.0	101.4
102.1H	102.6	110.7H	114.0	106.2
101.5	108.5	102.7	140.0	117.6
101.8	115.3H	98.6	118.0	107.7
101.2	112.6	97.8L	154.0H	123.3H
101.4	104.5	98.3	114.0	106.1
101.0	100.8	98.8	96.0	98.1
98.5	96.7	98.4	74.0	88.5
1936-37 to 1938-39		1933-34 to 1939-40	1938-39	

and wages tax returns of private employment. (b) Annual
y in showing magnitude of monthly changes but dependable in
t in 14 retail stores, representing about 15 per cent. of
(39) only, since wage tax returns not dissected to show move-
lier years. (f) Casual or temporary employees as estimated
s of employers in agricultural, pastoral and dairying indus-

1938-39

(Numbers in employment on the 15th or nearest pay day)

x Industries directly affected by seasonal variation

/ Industries affected chiefly by seasonal variation

	Industry		New South Wales	Victoria
/	Bricks, Tiles etc.	.. ..	3,837	2,100
/	Glass bottles	.. ..	1,176	1,100
x	Chemical Fertilisers	.. ..	275	1,100
x	Agricultural Implements	.. ..	1,112	3,100
/	Wireless Apparatus	.. ..	3,462	1,100
/	Wool, worsted and shoddy	.. ..	6,684	9,100
x	Furs, Skins and Leather (fallowingery)	.. ..	835	1,100
/	Tailoring and slop clothing	.. ..	11,494	7,100
/	Dressmaking	.. ..	1,520	7,100
/	Millinery	.. ..	1,681	1,100
/	Boots and Shoes	.. ..	5,585	9,100
x	Grain milling	.. ..	1,317	1,100
x	Sugar mills	.. ..	334	1,100
/	Sugar Confectionery	.. ..	3,322	2,100
x	Jam, fruit and vegetable Canning	.. ..	1,078	2,100
x	Butter factories, creameries, etc.	.. ..	1,176	2,100
x	Meat and fish preserving	.. ..	195	1,100
x	Condiments, coffee and spices	.. ..	1,511	1,100
/	Ice and Refrigerating	.. ..	1,311	2,100
/	Flavoured waters, cordials, etc.	.. ..	981	1,100
/	Vine making	.. ..	51	1,100
x	Arrowroot	.. ..	-	1,100
x	Nut Ginning	.. ..	-	1,100
x	Dried fruits	.. ..	37	1,100
/	Ice Cream	.. ..	462	1,100
/	Sawmills - Forest and Town	.. ..	4,679	3,100
x	Boxes and Cases	.. ..	997	1,100
(i)	Total of above	.. ..	55,112	64,100
(ii)	Factories marked x	.. ..	13,597	18,100
(iii)	Factories marked /	.. ..	41,515	46,100
(iv)	All Factories	.. ..	219,496	193,100
(v)	(ii) as per cent. of (i)	.. ..	24.7	28.1
(vi)	(iii) as per cent. of (i)	.. ..	75.3	71.9
(vii)	(iv) as per cent. of (iv)	.. ..	25.11	33.1

NOTE. The totals for all Factories shown above differ from those in the preceding table as they represent average employees on the 15th or nearest pay day.

day to the 15th of each month)

ations in rural production.

tions in demand on the home market.

oria	Queens- land	South Australia	Western Australia	Tasmania	Total Six States
054	454	576	444	160	7,555
943	58	114	24	-	2,315
076	86	668	401	-	2,506
925	-	915	73	-	6,025
058	-	-	-	-	4,520
343	515	846	-	1,499	19,390
347	211	-	-	-	1,393
842	2,914	1,643	-	-	23,893
882	763	865	708	33	11,791
229	508	306	65	-	3,789
460	855	592	360	56	16,908
081	342	449	421	106	3,716
-	4,415	-	-	-	4,749
781	382	325	269	-	7,079
602	465	299	29	791	5,264
867	1,141	389	163	238	5,995
264	3,498	-	138	-	4,095
121	191	234	155	12	3,224
225	306	333	293	79	4,550
591	350	318	153	47	2,440
53	-	592	26	-	722
-	17	-	-	-	17
-	303	-	-	-	303
777	-	447	-	49	1,310
229	181	62	34	4	972
390	4,014	963	2,240	1,306	16,592
720	409	161	110	65	2,442
410	22,404	11,097	6,106	4,446	163,575
243	15,092	5,117	3,756	2,568	58,373
167	7,312	5,980	2,350	1,878	105,402
854	51,552	42,018	22,089	13,162	342,171
8.3	67.4	46.1	61.5	57.8	35.7
1.7	32.6	53.9	38.5	42.2	64.3
8.23	43.46	26.41	27.64	33.78	30.17

those shown in Appendix A, since the latter
the basis of a full year's work.

ESTIMATES OF FLUCTUATIONS IN RURAL

1938-39

L = Minimum.

(For methods of estimation see Explanation)

Month	NEW SOUTH WALES Permanent Wage Earners = 41,512				VICTORIA Permanent Wage Earners = 30,847				QUEENSLAND Permanent Wage Earners = 18,237			
	Temporary Wage Earners Employed		Total Wage Earners Employed		Temporary Wage Earners Employed		Total Wage Earners Employed		Temporary Wage Earners Employed		Total Earners Employed	
	Seasonal Index	Number	Number	of Average	Seasonal Index	Number	Number	of Average	Seasonal Index	Number	Number	of Average
July ..	108	28,572	66,895	103.1	104	12,060	42,907	101.1	112	26,780	45,007	101.1
August ..	120	31,530	73,052	107.8	115	13,280	44,127	104.0	113	27,230	45,467	104.0
September ..	130	34,160	75,682	111.6	120	13,650	44,697	105.3	112	26,830	45,067	105.3
October ..	136	35,730	77,252	114.0	123	14,200	45,047	106.1	110	26,430	44,667	106.1
November ..	153	40,200	81,722	120.6	129	14,900	45,747	107.8	107	25,610	43,847	107.8
December ..	123	31,520	73,042	107.8	145	16,740	47,587	112.1	93	22,390	40,627	93.0
January ..	71	18,650	60,172	86.8	114	13,160	44,007	103.7	81	19,400	37,637	81.0
February ..	65	17,080	53,602	86.5	71	8,200	39,047	92.0	80	19,280	37,517	80.0
March ..	65	17,080	53,602	86.5	65	7,500	38,347	90.4	85	20,320	38,557	85.0
April ..	74	19,440	60,962	90.0	65	7,500	38,347	90.4	93	22,390	40,627	93.0
May ..	78	20,490	62,012	91.5	75	8,660	39,507	93.1	103	24,700	42,937	103.0
June ..	80	21,000	62,522	92.2	78	9,000	39,847	93.9	111	26,650	44,887	111.0
Average for Year:	100	26,271	67,793	100.0	100	11,587	42,434	100.0	100	24,000	42,237	100.0

SIX STATES GOVERNMENTS

L = Minimum. H = Maximum.

Month	Temporary Earners
July ..	80
August ..	86
September ..	91
October ..	100
November ..	106
December ..	99
January ..	77
February ..	68
March ..	69
April ..	69
May ..	71
June ..	72
Average for Year:	82

i = Maximum.

atory Note (e), Appendix A)

SOUTH AUSTRALIA Permanent Wage Earners = 14,810					WESTERN AUSTRALIA Permanent Wage Earners = 10,644					TASMANIA Permanent Wage Earners = 6,533				
Wage Rate	Temporary Wage Earners Employed		Total Wage Earners Employed		Wage Rate	Temporary Wage Earners Employed		Total Wage Earners Employed		Wage Rate	Temporary Wage Earners Employed		Total Wage Earners Employed	
% of Average	Seasonal Index	Num- ber	Num- ber	% of Average	Seasonal Index	Num- ber	Num- ber	% of Average	Seasonal Index	Num- ber	Num- ber	% of Average	Seasonal Index	Num- ber
106.5	68	6,589L	21,399L	87.3	61	3,806L	14,450L	85.6	60	3,061L	9,614L	83.0		
107.6	70	6,784	21,594	88.1	70	4,368	15,012	88.9	69	3,483	10,016	86.5		
106.7	74	7,170	21,980	89.7	90	5,615	16,259	96.3	75	3,808	10,341	89.3		
105.7	123	11,920	26,730	109.1	126	7,860	18,504	109.6	83	4,171	10,704	92.4		
103.8	129	12,500	27,310	111.5	129	8,050	18,694	110.7	103	5,213	11,746	101.4		
96.2	145	14,050H	28,860H	117.8	145	9,050H	19,694H	116.6	114	5,773	12,306	106.2		
89.1	120	11,630	26,440	107.9	120	7,490	18,134	107.4	140	7,093	13,626	117.6		
88.8	110	10,660	25,470	104.0	117	7,300	17,944	106.3	118	5,945	12,478	107.7		
91.3	105	10,170	24,980	102.0	106	6,610	17,254	102.2	154	7,759H	14,292H	123.3		
96.2	88	8,530	23,340	95.3	88	5,490	16,134	95.6	114	5,764	12,297	106.1		
101.6	85	8,240	23,050	94.1	80	4,990	15,634	92.6	96	4,832	11,365	98.1		
106.3	83	8,040	22,850	93.3	68	4,240	14,884	88.2	74	3,718	10,251	86.5		
100.0	100	9,690	24,500	100.0	100	6,239	16,883	100.0	100	5,053	11,586	100.0		

OMBINEI

= Maximum.

Temporary Wage Earners Employed	Total Wage Earners Employed
689	203,272
675	209,268
433	214,026
311	222,904
473H	229,066H
523	222,116
423	200,016
465L	191,058L
439	192,032
114	191,707
912	194,505
648	195,241
840	205,433

CROP	BUSY PERIODS (Greatest Number of Man-Hours Worked per day)		QUIET PERIODS (Fewest Number of Man-Hours Worked per day)	
	Period		Period	
(A) AGRICULTURE				
<u>CEREALS:</u>				
Wheat	April - June (S) October - December (H)	July - September January - March	Who	
Oats	March - May (S) October - December (H)	June - September January - February	l	
Maize	September - December (S) January - July (H)	August	se	
Barley	May - June (S) October - December (H)	July - December January - April	Mai	
Rice	October (S) April - June (H)	November - March July - September	f	
<u>ROOT CROPS:</u>				
Potatoes (Coastal crops)	July - August (P) October - February (H)	September March - June	Pot	
" (Tableland crops)	November - December (P) April - July (H)	January - March August - October	th	
<u>INDUSTRIAL CROPS:</u>				
Sugar Cane	September July - November	December - June	Cit	
Tobacco	November - December February - April	January May - October	1	
<u>FRUIT CROPS:</u>				
Citrus	March - December	January - February	T	
Apples	September - July (early districts) October - August (late districts)	August (early districts) September (late districts)	sp	
Bananas	July - April	May - June (6 hours per day)	App	
Peaches	June - March (Inland) May - February (Coastal)	April - May (Inland) March - April (Coastal)	A	
Pears	Mid-September to mid-August	Mid-August to mid-September	P	
Apricots	June - February	March - May	O	
Plums	June - March (Inland Areas) May - February (Coastal)	April (Inland Areas) March - April (Coastal)	Pea	
<u>VINE FRUIT CROPS:</u>	January - April June-August	May September - December	pr	
(B) PASTORAL AND				
<u>PASTORAL:</u>				
A. Sheep ..	April - July (Winter) August - October (Spring)	January - March	Lam	
Lambing			l	
Lamb Marking	4-6 weeks after lambing		T	
Shearing	July - November		She	
Dipping	4 weeks after shearing		A	
B. Cattle ..			o	
<u>DAIRYING:</u>				
Milking	October - May	Labour requirements fairly constant for the industry.	Cat	

S = Sowing.

P = Planting

REMARKS

FUR.

at: The harvest is earlier in the North-Western areas than other parts of the State and October is here the main month for harvesting wheat crops for hay for which more labour is required than for the grain harvest. The latest harvesting occurs in the south eastern parts of the wheat belt.

ee: Additional labour is required only during the harvesting period, the main months for which are May and June and in the far north coast including July.

atoes: It is considered preferable to refer to coastal crops and Tableland crops than to early districts and late districts.

rust: In both coastal and inland areas mid-March to mid-May would be the period of least activity in the industry, during which working hours might be reduced by 75%. Although the citrus orchard operations would be thus reduced many of the growers would spend the "spare time" on side line crops of annuals.

logs: Chief Orchard Operations - Chief commercial areas January, February, March, April, May - harvesting, marketing, spraying, cultural work; June, July, August - pruning, winter clean-up, codling moth spraying, ploughing; September, odd jobs; October, November, December - cultural work, spraying, grafting.

rs: Chief Orchard operations - January, February, March - harvesting, spraying, marketing; April - marketing; May to mid-August, marketing, spraying, cultural work, pruning, winter clean-up, codling moth; mid-August to mid-September - odd jobs; mid-September, October, November, December - spraying, cultural work, grafting.

ches, Apricots, Plums: Growers of peaches and plums would have their slackest period during months March to May, and of apricots about March, April and May. During these pruning months actual work would probably be reduced by 50%. Praying and spring operations would commence about June, August, September.

DAIRYING.

ding and Lamb Marking: Although busy periods, can usually be attended to by the labour normally engaged through the year and additional labour is rarely required. The same applies to Dipping.

uring: Begins in the far west in the Autumn and is general on the plains in July, August, on the slopes during August, September, while on the Tablelands the usual custom is to shear in October - November. September is the busiest month for shearing.

tle: Labour employed normally throughout the year can generally attend to busy periods such as marking and branding.

H = Harvesting.

CROP	BUSY PERIODS (Greatest Number of Man-Hours Worked per day)		QUIET PERIODS (Fewest Number of Man-Hours Worked per day)	
	Period		Period	
A. <u>AGRICULTURE</u>				
<u>CEREALS:</u>				
Wheat	May - June (S) December - January (H)	July - November February - April		
Oats	April - June (S) November - January (H)	July - October February - March		
Barley	June - August (S) December - January (H)	September - November February - May		
Maize	September - November (S) May - June (H)	December - April July - September		
<u>ROOT CROPS:</u>				
Potatoes (Early) ..	June - August (P) November - January (H)	September - October February - May		
" (Late) ..	October - December (P) March - July (H)	January - February August - September		
<u>INDUSTRIAL CROPS:</u>				
Tobacco	October - December (S) January - May (H)	June - September		Tobacco Victoria
Sugarbeet	August - September (S) April - June (H)	October - March July		Sugar
<u>FRUIT CROPS:</u>				
Apples	February - May	June		Peach
Peaches	December - March	April - June		peach
Pears	January - April	May - June		
Citrus	May - December	January - April		Citrus
Apricots	December - January	February - June		
Plums	December - February	March - June		
<u>VINE FRUIT CROPS:</u>				
	February - March	May - June		
(B) <u>PASTORAL AND DAIRY</u>				
<u>PASTORAL:</u>				
A. Sheep				Pastoral
Lambing	May - July (Winter) September (Spring)			months
Lamb Marking ..	4-6 weeks after lambing	January - March		Cattle
Shearing	August - December (The peak period is October and November)			June
Dipping	4 weeks after shearing			Dairy
B. Cattle	In the high country from September to March			cow
<u>DAIRYING:</u>				
Milking	September - March	April - August (Labour requirements fairly constant for the industry)		Milk leaves labour (bo

S = Sowing.

P = Planting.

REMARKS

E.

cco: There is no period in which a substantial labour demand does not exist producing the crop is a good one - grading takes place May - September.

best: Probably heavy demand for contract thinning in October - November.

es: December - February dessert peaches South Victoria, January - March canning peaches North Victoria (busy periods)

us: Mainly in Northern Victoria.

IRYING.

al: From July to December there is a big demand for casual labour; during other months industry can be carried on by station hands.

e: Other than in the high country this industry is in Victoria carried on in connection with sheep and busy periods are therefore the same.

ing: Many dairy farmers, especially in South Gippsland aim at calving all their cows about late August leaving two free months (July and August) when cows will be dry. Not all of these succeed in this, at least partially. Work is therefore considerably more pressing on some dairy farms during these two months, but on most dairy farms the labour requirements are fairly constant the year round, with September to January (both inclusive) certainly the most pressing.

H - Harvesting.

CROP		BUSY PERIODS (Greatest Number of Man- Hours Worked per day)		QUIET PERIODS (Fewest Number of Man- Hours Worked per day)	
		Period		Period	
(A) AGRICULTURE					
<u>CEREALS:</u>					
Wheat	.. ..	May - July (S) October - early December (H)	August - September Late December - March		
Maize	.. ..	August - December (S) March - September (H)	January - February		
Barley	.. ..	May - July (S) October - November (H)	August - September December - March		
Oats	.. ..	March - June (S) October - November (H)	July - August December - February		
<u>ROOT CROPS:</u>					
Potatoes (Spring)	.. ..	July - August (P) October - December (H)	September, January, March		
" (Autumn)	.. ..	February (P) May - July (H)	April		
<u>INDUSTRIAL CROPS:</u>					
Sugarcane	.. ..	March - April (Planting and hoeing) July - December (Cutting)	May - June October - February		
Cotton	.. ..	September - November (S) March - July (H)	December - March June - August		
Tobacco	.. ..	October - December (S) March - April (H)	January - February May - September		
<u>FRUIT CROPS:</u>					
Bananas	.. ..	All year			
Pineapples	.. ..	August - October January - March	November - December April - July		
Apples	.. ..	January - May	June - December		
Citrus	.. ..	All year			
Peaches	.. ..	November - February	January - May		
<u>VINE FRUIT CROPS:</u>		December - March	April - June		
(B) PASTORAL AND DAIRY					
<u>PASTORAL:</u>					
A. Sheep	.. ..			
Lambing	.. ..	March - April (Winter) August - September (Spring)			
Lamb Marking	.. ..	2-4 weeks after lambing	December - February		
Shearing	.. ..	February - April July - October			
Dipping	.. ..	6 weeks after shearing			
B. Cattle	.. ..			
<u>DAIRYLING:</u>					
Milking	.. ..	October - April	May - September (Labour re- quirements fairly constant for the industry)		

S = Sowing.

P = Planting

REMARKS

TURE.

ton: November - mid-December for thinning. March - July provides greatest amount of employment of casual labour.

DAIRYING.

total: Queensland shears practically in every month of the year. Slackest period, as indicated, is December - February. Lamb marking generally 2-4 weeks after lambing. Dipping operations from straight off shears to 6 weeks. The incidence of the fly strike would have a great bearing on "busy period".

The busiest period of marketing fat and store cattle is from 1st April to 30th September. Stockmen and meat workers would be employed in the greatest numbers.

H = Harvesting.

(4) SOUTH AUSTRALIA - SEASONAL V.

CROP	BUSY PERIODS (Greatest Number of Man- Hours Worked per day)		QUIET PERIODS (Fewest Number of Man- Hours Worked per day)	
	Period		Period	
(A) <u>AGRICULTURE</u>				
<u>CEREALS:</u>				
Wheat	April - June (S) November - January (H)	July - October February - March		
Barley	May - July (S) November - January (H)	August - November February - April		
Oats	April - June (S) November - January (H)	July - October February - March		
<u>ROOT CROPS:</u>				
Potatoes (Early) ..	July - August (P) November - January (H)	September - June		
" (Late) ..	September - January (P) February - June (H)	July - August		
<u>INDUSTRIAL CROPS:</u>				No 1
<u>FRUIT CROPS:</u>				Citrus
Apples	January - April	May - June		Ma
Citrus	May - October November - March	April		
Apricots	December - January	February - June		
Plums	December - February	March - June		
Pears	January - April	May - June		
Peaches	December - March	April - May		
<u>VINE FRUIT CROPS:</u>	February - April Mid-June - mid August	May - June		Vine
(B) <u>PASTORAL AND D.</u>				
<u>PASTORAL:</u>				
A. Sheep				Sheep
Lambing	April - July (Winter) August - October (Spring)			mi
Lamb Marking ..	4-6 weeks after lambing	January - March		
Shearing	July - November			
Dipping	4 weeks after shearing			
B. Cattle				
<u>DAIRYING:</u>				
Milking	August - February	March - July (labour re- quirements fairly constant for the industry)		

S = Sowing.

P = Planting.

REMARKS

RE.

importance

us: Busy - May to October; Fairly busy - if groves are irrigated - November to
rch.

: Busy - February to April. Mid-June to mid-August (lot of pruners employed)

HARVESTING.

ring: Commences in the north in July and culminates in the south at its busiest in
d-October, finishing in December.

H - Harvesting.

(5) WESTERN AUSTRALIA - SEASONAL

CROP	BUSY PERIODS (Greatest Number of Man- Hours Worked per day)		QUIET PERIODS (Fewest Number of Man- Hours Worked per day)	
	Period		Period	
(A) AGRICULTURE				
<u>CEREALS:</u>				
Wheat	April - June (S) October - January (H)	July - September February - March	Ge
Oats	April - June (S) October - January (H)	July - September February - March	Pe
Barley	April - June (S) November - January (H)	July - October February - March	
<u>ROOT CROPS:</u>				
Potatoes (Early)	June - August (S) Mid-October - December (H)	September - mid-October	
" (Late)	November - January (S) March - May (H)	February	To
<u>INDUSTRIAL CROPS:</u>				
Tobacco	October - mid-December (S) Mid-January - March (H)	Mid-December - mid-January April - October	
<u>FRUIT CROPS:</u>				
Apples	February - May	June - January (chiefly January)	Fr
Citrus	May - March	April	Ar
Plums	December - February	March - June	
Peaches	January - April	May - June	
Apricots	December - March December - January	April - May February - May	Pl
<u>VINE FRUIT CROPS:</u>				
		February - April	May	
(B) PASTORAL AND				
<u>PASTORAL:</u>				
A. Sheep	April - July (Winter)	January - February	Sh
Lambing	August - October (Spring)		
Lamb Marking	4-6 weeks after lambing		
Shearing	March - November		
Dipping	4 weeks after shearing		
B. Beef Cattle			
<u>DAIRYING:</u>				
Milking	July - January	February - June (Labour re- quirements fairly constant for the industry)	

S = Sowing.

P = Planting

REMARKS

IRE.

reals: Where sheep raising is carried out in conjunction with wheat growing, a busy period will occur either in August, September or October, according to districts.

atoes: The periods calling for greatest man-power are (i) mid-October - December and (ii) March, April, May - the periods of digging operations. Men are of course employed during planting seasons but in many cases the necessary labour is available from the farmer's staff. The planting times are June, July, August and November, December, January. Vegetable crops in the metropolitan area have no rush periods, but in the Albany area the greatest need for men for such crops occurs during the months from January to April.

acco: The two busiest periods in Western Australia are: (i) October to mid-December when planting out and inter-row tillage operations, etc. are in progress, and (ii) Mid-January to end of March when harvesting, curing and bulking etc. are taking place. The quietest periods are:- (i) Mid-December to mid-January, and (ii) April to end of October, when grazing, marketing, fallowing and seed-bed work are being carried on.

uit: The busiest time is the marketing period, but it is safe to say that there is no time in the year in which there is no work to be done.

ples: Marketing period - February, March chiefly. January is the quiet period. During June pruning operations usually begin, followed in succession by cultivations, grafting, fruit thinning, etc.

ums: Although plums are not grown except in small quantities in Western Australia, and always as a side-line, the period March - June can be regarded as the quiet period.

DAIRYING.

ee: In the pastoral areas dipping is not a general practice and in the extreme south-west Division this operation is often carried out in February - March, the compulsory declaration being furnished by 31st March each year. The average dates for the busy periods are:-

	<u>District</u>		<u>Lambing</u>	<u>Shearing</u>
Kimberley	August	April
Port Hedland	"	May - June
Roebourne	May	June - August
Ashburton	"	" "
Gascoyne	"	" "
"	"	July - September
Murchison	"	August - October
Eastern Gold Fields	"	June - August
South-west Division				

(Agricultural and mixed farming areas April - July August - November

Lamb marking is usually carried out 4-6 weeks after lambing and dipping; in the south-west Division 4-6 weeks after shearing.

of Cattle: There is little variation in the number of employees required on stations of farms where beef cattle are raised. Slaughtering of beef cattle for export gives employment to 200 men from March to September each year. This number of workmen are drawn from the metropolitan area and transported by boat to the Wyndham area works where beef cattle are treated for export.

lking: The period July to January might be considered the busy period in the dairying districts. The period has been lengthened in recent years because farmers have adopted the policy of arranging for early calving. Peak production occurs during October and November. In these months also harvesting of hay and silage is carried out. In some later districts this work extends into December and January. Generally however, labour requirements both on farms and in factories remain fairly constant throughout the year. During periods of low production work on maintenance and improvement is usually carried out.

CROP	BUSY PERIODS (Greatest Number of Man-Hours Worked per day)		QUIET PERIODS (Fewest Number of Man-Hours Worked per day)	
	Period		Period	
(A) <u>AGRICULTURE</u>				
<u>CEREALS:</u>				
Oats	February - October (S) November - March (H)	April - August		
Wheat	May - September (S) January - February (H)	October - December March - April		
Barley	September - November (S) February - March (H)	December - January April - August		
<u>ROOT CROPS:</u>				
Potatoes (Early) ..	July - September (S) January, February, March (H)	October - November April - July		
" (Late) ..	September - November (S) April - August (H)	January - March		
<u>INDUSTRIAL CROPS:</u>				
Hops	February - March (H)	April - January		
<u>FRUIT CROPS:</u>				
Apples	February - May September - November	June		<u>Fruit</u> <u>W</u> <u>to</u>
Pears	February - April September - November	May - June		
Apricots ..	January - February	March - June		
Raspberries and other Berry Fruits ..	November, December, January	February - October		
(B) <u>PASTORAL AND DAIRY</u>				
<u>PASTORAL:</u>				
A. Sheep ..	March - July (Winter) August - October (Spring)	February		<u>Sheep</u>
Lambing ..	4-6 weeks after lambing			
Lamb Marking ..	October - December			
Shearing ..	4 weeks after shearing			
Dipping ..				
B. Cattle ..				
<u>DAIRYING:</u>				
Milking	October - March	April - September (Labour requirements fairly constant for the industry)		

S = Sowing.

P = Planting.

REMARKS

RE.

t Crops: The period February to April specifically applies to harvesting only.
th apples and pears there is a period of intense activity during September - November
apply preventive pest sprays.

AIRYING.

ring: Commences in October and reaches maximum in late November and early December.

H = Harvesting.

AUSTRALIA.

SUMMARY OF SEASONAL REQUIREMENTS OF LABOUR ON FARMS.

BUSIEST AND QUIETTEST MONTHS

(Based on Appendix

State		Degree of Activity	Busiest Months	
			Months	Main Activities/ increased man-hours
<u>NEW SOUTH WALES</u> (See Appendix E(1))	..	Major	September, October, November, December	Harvesting cereals, coal sowing tableland potatoes
		Minor	July, August	Harvesting tableland potatoes; lambing; shearing (coal)
<u>VICTORIA</u> (See Appendix E(2))	..	Major	October, November, December, January	Harvesting cereals, most potatoes; shearing
		Minor	July, August, September	Sowing cereals; lambing
<u>QUEENSLAND</u> (See Appendix E(3))	..	Major	July, August, September, October, November, December	Cane cutting; shearing; harvesting cereals; lambing
		Minor	April, May, June	Cane planting and hoeing (winter); early shearing
<u>SOUTH AUSTRALIA</u> (See Appendix E(4))	..	Major	October, November, December, January, February	Harvesting cereals and fruiting
		Minor	March, April, May, June	Lambing (winter); sowing; harvesting fruits
<u>WESTERN AUSTRALIA</u> (See Appendix E(5))	..	Major	September, October, November, December, January	Harvesting cereals and fruiting
		Minor	February, March, April, May, June*	Harvesting crops; shearing
<u>TASMANIA</u> (See Appendix E(6))	..	Major	December, January, February, March	Harvesting fruits, hops, potatoes
		Minor	April, May, September, October, November	Spraying fruit; sowing; shearing; lambing (spring)

* Of the total acreage sown to crops in 1938-39, the 55 in Victoria, 16 in Queensland, 65 in South Australia.

* Shearing commences in the North in July and increases. These months are "quiet" only in relation to the rest of the year.

* June is busy for sowing of cereals in the South-West. Total activities in the South-West.

GENERAL NOTE: The labour requirements in Dairying are fairly constant for the year, but are subject to variations in this table. The numbers of persons employed in each State in 1937-38 (1935-36 for Queensland) were as follows:

State	Farming (Cultivation) Principal
New South Wales ..	43,628
Victoria ..	36,001
Queensland ..	48,163
South Australia ..	30,518
Western Australia ..	23,173
Tasmania ..	12,312
TOTAL:	193,795

(a) Exclusive of F

IN EACH STATE.

: E.)

Requiring of work	Quietest Months	
	Months	Main Activities
late potatoes; shearing potatoes; late slopes)	<u>Inland</u> : January, February, March. <u>Coastal</u> : April, May, June.	Routine operations on farms, orchards and sheep stations.
fruits, early shearing	<u>Inland</u> : February, March, April <u>Coastal</u> : May, June	Routine operations on farms, orchards, sheep stations
sowing maize; shearing (spring)	January, February, March	Routine operations on farms, orchards, sheep stations (including shearing)
lambing		
fruits; shear-	July th , August th , September th	Routine operations on farms, orchards and sheep stations (including shearing)
cereals;		
fruits; shear-	June th , July, August,	Routine operations on farms, orchards and sheep stations (including shearing)
ng		
early	June, July, August	Sowing early potatoes; harvesting late potatoes; lambing (winter)
late potatoes; ng)		

percentage sown to wheat was 66 in New South Wales, Australia, 72 in Western Australia and Tasmania 4.

as activities move South in August and September. requirements of rural labour for the State through-

and for shearing in the North, but quiet for pas-

the industry throughout the year and therefore are not shown to persons permanently engaged in the main divisions of rural industry as follows :-

(ng) ly	Lairying Principally	Pastoral Pursuits Principally	Total Persons Engaged
	41,967	47,035	132,630
	49,284	23,349	108,634
	52,537	n.a.	100,700 ^(a)
	7,319	7,389	45,226
	6,624	6,870	36,667
	5,780	2,514	20,606
	163,511	87,157 ^(a)	444,463

pastoral in Queensland.